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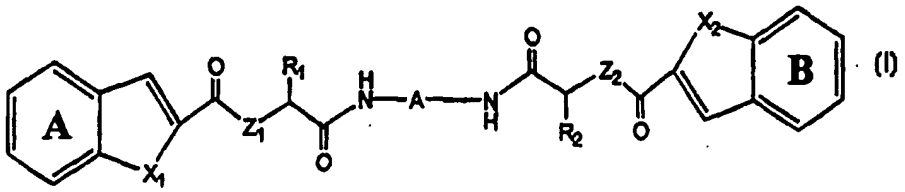
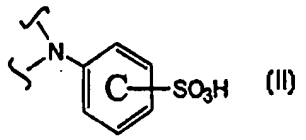
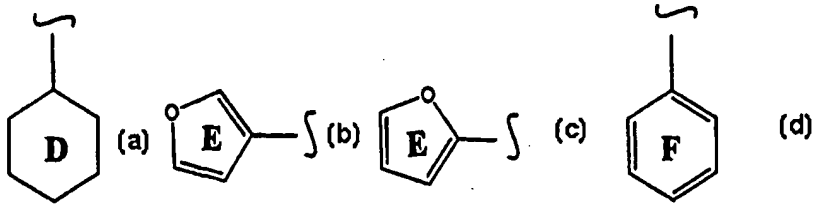
(54) Title: PROTEIN-CARBOHYDRATE BINDING ANTAGONISTS







(57) Abstract

Disclosed are novel compounds represented by structural formula (I); and physiologically acceptable salts thereof. X_1 and X_2 are independently –NH–, –O–, –S– or –C=C–. Z_1 and Z_2 are independently –O– or formula (II). A is a linking group. R_1 and R_2 are independently represented by a structure selected from (a), (b), (c) or (d). Rings A through F are independently substituted or unsubstituted. Also disclosed is a method of inhibiting binding of glycosaminoglycan with proteins whose activity is modulated by the glycosaminoglycans in a subject in need of such treatment. The method comprises administering to the subject an effective amount of at least one compound represented by (a), (b), (c) or (d).